

**REMARKS**

The corrections suggested by the Examiner for the Abstract of Disclosure has been made and withdrawal of the objection to the specification is respectfully requested.

Claim 1 has been amended by incorporating a portion of claim 2 therein while making the changes suggested by the Examiner in paragraphs 2 and 4 of the Office Action. It is therefore respectfully submitted that the objection to the claims and the rejection based on 35 USC 112, second paragraph can now be withdrawn.

Claim 1 has been amended to refer to the half reduction angles disclosed on page 6, lines 20-22 of the application.

Several new claims have been added for consideration by the Examiner. They find basis, *inter alia*, at page 5, line 10, page 6, line 15, page 8, lines 4-8 and page 10, lines 11-18.

Original claims 1 and 4 were rejected under 35 USC 103 over Kawakami in view of Choi, claim 2 over Kawakami in view of Choi and Fujiwara, claim 3, in view of Kawakami in view of Choi and Chan and claim 5 over Kawakami in view of Choi and Kimura. All of these rejections are respectfully traversed.

The light emitted from LED chip 21 is incident on the fluorophor 23 and results in the light being diffused, as noted in the passage of the present application from page 5, lines 24 to page 6, line 4. As shown by the light distribution characteristic D of Figure 5, the half reduction angle, i.e., the angle of which the brightness drops to 50%, is large at approximately 60° on each side. Compared to the coverage angle of approximately 25° on each side is set for this type of photograph, light is defused over a relatively wide area. In order to solve this problem, a linear fresnel cut is applied and

light is made convergent with the half reduction angle of approximately  $20^\circ$  on the short side of the photograph and approximately  $35^\circ$  on the longer side of the photograph. This enables the light from LED element 2 with a primary low light emission volume to be made adequately convergent and ensure efficient distribution of light within the range to be photographed by the camera. The invention provides a light source of appropriate size to be used, for example, in connection with a photography arrangement incorporated as a part of a mobile telephone.

The invention is not taught or suggested by Kawakami either alone or in combination with the other references cited. Kawakami relates to an electronic flash in which red, green and blue LEDs are used as a light source. Because of the use of this combination, it is necessary to increase the number of LED elements in the combination of the three red, green and blue LEDs in order to increase the quantity of light and this results in a remarkable increase in the size of the illumination device. Note that Kawakami discloses a fresnel lens 32 in the form of concentric circles as shown, for example, in Figure 1.

In contrast to Kawakami, the present invention uses a fresnel lens on which linear fresnel cuts have been applied in a linear direction parallel to the arrangement direction mounted on the LED element. The linear cut is enabled by using the white LED, because an emission of white light is achieved in a linear arrangement in the present invention, light is made convergent with a half reduction angle of approximately  $20^\circ$  on the shortest side of the photograph and a half reduction angle of approximately  $35^\circ$  on the longer side of the photograph. These features are not shown in Kawakami.

The Choi reference has been cited with regard to the current and lighting direction characteristics, Choi to show a light source device further including red, blue

and green LEDs arranged in a matrix, Chan to show a hot shoe arrangement including a spring and Kimura to show LEDs emitting red, green and blue colored light adhered together to form a single chip configured in a stacked arrangement. It is unnecessary to consider these contentions because even if they are correct, the basic deficiency in the Kawakami reference has not been eliminated. Accordingly, no combination of these references can render the claimed invention obvious.

In light of all of the foregoing considerations, it is respectfully submitted that all of the prior art rejections should be withdrawn.

Dated: May 4, 2005

Respectfully submitted,

By   
Edward A. Meilman

Registration No.: 24,735  
DICKSTEIN SHAPIRO MORIN &  
OSHINSKY LLP  
1177 Avenue of the Americas  
41st Floor  
New York, New York 10036-2714  
(212) 835-1400  
Attorneys for Applicant